

AMENDMENTS TO THE DRAWINGS

Enclosed are two (2) sheets of Replacement Drawings with amended Figures 2 and 5. Please replace the corresponding two sheets of drawings currently on file with the drawings submitted herewith.

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1, 3-8, 10-12, 15 and 16 are pending in the present application. Claims 2, 13 and 14 have been canceled and claims 1, 3, 5-8, 11, 12 and 15 have been amended by the present amendment.

In the outstanding Office Action, the drawings were objected to; claims 1-8, 10-12, 15 and 16 were rejected under 35 U.S.C. § 112, first paragraph; claims 2, 3, 12 and 15 were rejected under 35 U.S.C. § 112, second paragraph; claims 1-3, 6, 11, 12 and 15 were rejected under 35 U.S.C. § 102(b) as anticipated by DuBois et al.; claims 1-8, 10-12, 15 and 16 were rejected under 35 U.S.C. § 103(a) as unpatentable over Applicant's admitted prior art (AAPA) in view of Tepman et al. or alternatively in view of DeBois et al.; claims 4 and 10 were rejected under 35 U.S.C. § 103(a) as unpatentable over DeBois et al. in view of Rempei Nakata; claims 5, 7 and 8 were rejected under 35 U.S.C. § 103(a) as unpatentable over DeBois et al.; and claim 16 was rejected under 35 U.S.C. § 103(a) as unpatentable over DeBois et al. in view of Robertson et al.

Regarding the objection to the drawings, the Office Action indicates the subject matter of the application does not clearly indicate the loading and unloading of the substrate. Accordingly, an operation of the robot arm and loading and unloading of the glass substrate will now be given to clarify features of the invention. Please note that Figures 2 and 5 have also been amended to clarify features of the present invention. As shown in Figure 1 of the present application and as described in paragraph [0012], the robot arm 8 transports the pre-heated glass substrate 4 and

transfers the pre-heated glass substrate 4 from a heat chamber to the process chamber 2. As shown in Figure 2, the robot arm 8 supports a portion of the glass substrate 4 with a non-supported edge portion freely hanging over the robot arm 8 such that as the robot arm 8 moves in a forward direction to transfer the glass substrate 4 on to the susceptor 10, the non-supported edge portion of the glass substrate 4 slides on the sliding portion of the susceptor 10 and is stopped by at least one stopping pin 28 located at a stopping position. Figures 2 and 5 have been amended to clarify that the outer portions of the robot arm 8 are illustrated using dotted lines to clarify that the robot arm 8 is under the substrate 4 as clearly shown in Figure 1. That is, Figure 1 clearly shows the robot arm 8 being under the substrate 4.

In addition, it is respectfully noted that in Figure 1, the robot arm 8 has moved the glass substrate 4 into the process chamber 2, and that the lift pins 6 have been raised to support the glass substrate 4 such that the robot arm 8 may be lowered and then retracted from the process chamber 2. Therefore, as shown in Figures 1 and 2, the robot arm 8 first supports the glass substrate 4, moves the glass substrate 4 into the process chamber 2, the lift pins 6 are raised so as to contact the edge portions of the glass substrate 4 such that the robot arm 8 may be lowered and then be removed from the process chamber 2. The pins 6 are then lowered such that the glass substrate 4 directly contacts the upper surface of the susceptor 10. The deposition process is then performed and a reverse process is performed to remove the glass substrate 4 from the process chamber 2.

Thus, in light of the above discussion, it is respectfully submitted the figures and descriptions in the specification support the moving of the glass substrate 4 into and out of the

process chamber 2.

In addition, Figures 3 and 4 illustrate the problems associated with the glass substrate 4 sliding along the sliding portion 41 of the susceptor 10. That is, because the glass substrate has a portion that is not supported by the robot arm 8, the glass substrate 4 tends to bend and slide along the sliding part 41 of the susceptor 10. This results in scraped material 11 (see Figures 4B-4D, for example) being deposited on the susceptor 10. To solve this problem, the present invention provides a groove 44 formed in the sliding portion 42 (see Figure 5, for example) of the susceptor 30 at a location of at least one stopping pin 40 for receiving material resulting from sliding of the glass substrate 34 on the sliding portion 42 of the susceptor 30. Note that the groove 44 is only formed in the edge portion of the susceptor 30 near the stopping pin 40.

Therefore, in light of the above comments, it is respectfully submitted the specification and drawings properly illustrate the features of the invention. However, if the Examiner has any further questions regarding this matter, he is invited to contact Applicant's representative to discuss this case. In view of the comments, it is respectfully requested the objections to the specification and drawings be withdrawn.

In addition, regarding the rejection of the claims under 35 U.S.C. § 112, first and second paragraphs, it is respectfully noted the claims have been amended or canceled to address these rejections. For example, claim 2 has been canceled and claim 3 recites that a length of the sliding portion, measured from the groove, is 10 mm. The groove has been defined as being at a position of the at least one stopping pin. Figure 5 illustrates these features. Claim 12 has been amended to clarify that the second planar portion of the susceptor form is stepped-shaped as

shown in Figure 6, for example. Regarding the features recited in claim 15, it is noted that claim 15 has been amended to clarify that the incline of the non-supported edge of the glass substrate is substantially at 85 degrees from a vertical when sliding the glass substrate on the sliding portion of the susceptor. These features are supported by the subject matter recited in the original paragraph [0016], for example.

Accordingly, in light of the above comments, it is respectfully requested the rejection of the claims under 35 U.S.C. § 112, first and second paragraph, be withdrawn.

Further, regarding the rejections of the claims under 35 U.S.C. § 102(b) and § 103(a) noted in the Office Action, it is respectfully noted the groove 44 shown in DeBois et al. (see Figs. 2 and 3, for example) is used as a thermal choke. That is, without the groove 44, the temperature of the susceptor 26, which would otherwise naturally drop off towards its outer perimeter, would reduce from within the portion of the susceptor 26 beneath the wafer 28 (see column 4, lines 35-42, for example). The groove is not located at a stopping pin and is not located at a position so as to receive scraped-off material. That is, there is no sliding of the substrate in DeBois et al., and thus there is no need for the groove disposed at the position as claimed by the present invention.

Similar comments apply to Tepman et al., Nakata and Robertson et al. That is, none of these references teach or suggest the claimed groove being located at the specific position such that the groove collects scraped-off material.

Accordingly, it is respectfully submitted independent claim 1 and each claim depending therefrom are allowable, and that each of the rejections noted in the Office Action has been

overcome.

CONCLUSION

All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance. Should there be any outstanding matters that need to be resolved, the Examiner is respectfully requested to contact David Bilodeau (Reg. No. 42,325), to conduct an interview in an effort to expedite prosecution in connection with the present application.

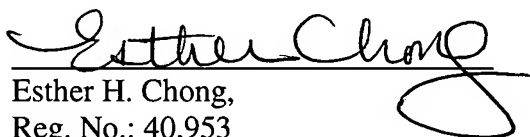
If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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Attachments: Replacement Drawings (2 Sheets)